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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
SZPERKA, MICHAEL EDWARD	

ART UNIT	PAPER NUMBER
1644	

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09/03/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/541,708	SILENCE, KAREN	
	Examiner	Art Unit	
	Michael Szperka	1644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 May 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,22 and 34-59* is/are pending in the application.

4a) Of the above claim(s) *39 and 41* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,22,34-38,40 and 42-59* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/22/09*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's response received October 16, 2008 is acknowledged.

Claims 3-21 and 23-33 have been canceled.
Claims 1 and 36-41 have been amended.
Claims 1, 2, 22, and 34-59 are pending in the instant application.
Claims 39 and 41 stand withdrawn from consideration as being drawn to a nonelected invention. See 37 CFR 1.142(b) and MPEP § 821.03, for reasons of record set forth in the restriction requirement mailed December 10, 2007.

Claims 1, 2, 22, 34-38, 40, and 42-59 are under examination in this office action as they read on the elected antibody species of SEQ ID NO:5

Information Disclosure Statement

2. The IDS form received May 22, 2009 is acknowledged and has been considered.

Specification

3. Applicant's amendments to the abstract are noted. The title is still objected to because as amended 5/22/09 it does not disclose single domain antibodies specific for von Willebrand factor, the invention claimed in independent claim 1. Appropriate correction of the title is still suggested.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 36-38, 40, 42, and 51-54 stand rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims

contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention for the reasons of record. The office action mailed December 9, 2008 states:

> Applicant has claimed a large genus of heavy chain antibodies and heavy chain antibody fragments which are at least 70% identical to the entirety of a fragment of SEQ ID NO:5. SEQ ID NO:5 is disclosed as a heavy chain antibody which binds to the A3 domain of von Willebrand Factor (vWF).
>
> The guidelines for the Examination of Patent Applications Under the 35 U.S.C. 112, § 1 "Written Description" Requirement make clear that if a claimed genus does not show actual reduction to practice for a representative number of species, then the Requirement may be alternatively met by reduction to drawings, or by disclosure of relevant, identifying characteristics, i.e., structure or other physical and or chemical properties, by functional characteristics coupled with a known or disclosed correlation between function and structure, or by a combination of such identifying characteristics, sufficient to show the applicant was in possession of the genus (Federal Register, Vol. 66, No. 4, pages 1099-1111, January 5, 2001, see especially page 1106 column 3).
>
> In University of California v. Eli Lilly and Co. (CAFC) 43 USPQ2d 1398, the court noted:
>
> "A definition by function, as we have previously indicated, does not suffice to define the genus because it is only an indication of what the gene (in the instant case, a peptide) does, rather than what it is. See Fiers, 984 F.2d at 1169-71, 25 USPQ2d at 1605-06 (discussing Amgen). It is only a definition of a useful result rather than a definition of what achieves that result. Many such genes (peptides) may achieve that result. The description requirement of the patent statute requires a description of an invention, not an indication of a result that one might achieve if one made that invention. See In re Wilder, 736 F.2d 1516, 1521, 222 USPQ 369, 372-73 (Fed. Cir. 1984) (affirming rejection because the specification does "little more than outlin [e] goals appellants hope the claimed invention achieves and the problems the invention will hopefully ameliorate."). Accordingly, naming a type of material generally known to exist, in the absence of knowledge as to what that material consists of, is not a description of that material."
>
> The court has also noted that "Adequate written description requires a precise definition, such as by structure, formula, chemical name or physical properties, not a mere wish or plan for obtaining the claimed chemical invention." Id. at 1566, 43 USPQ2d at 1404 (quoting Fiers, 984 F.2d at 1171, 25 USPQ2d at 1606). Also see Enzo-Biochem v. Gen-Probe 01-1230 (CAFC 2002).
>
> It is well established in the art that the formation of an intact antigen-binding site requires the association of the complete heavy and light chain variable regions of a given antibody, each of which consists of three different complementarity determining regions, CDR1, 2 and 3, which provide the majority of the contact residues for the binding of the antibody to its target epitope. The amino acid sequences and conformations of each of the heavy and light chain CDRs are critical in maintaining the antigen binding specificity and affinity which is characteristic of the parent immunoglobulin (Janeway et al., see entire selection). It is also known that single amino acid changes in a CDR can abrogate the antigen binding function of an antibody (Rudikoff et al., see entire document, particularly the abstract and the middle of the left column of page 1982).
>
> Heavy chain antibodies are distinct in that they comprise only a single polypeptide chain, and thus only have 3 CDRs which are responsible for antigen binding. However, the majority of antigen contacts are still found within the CDRs (Ghahroudi et al., of record, see entire document). Note that the instant claim language allows for changes in the amino acid sequence of the claimed antibody to occur anywhere, including within the CDR regions. The instant specification does not appear to define, and the instant claims do not recite, a specific structure that must be maintained such that the property of binding to vWF is maintained. Thus the

structure recited in the instant claims (>70% identity) does not appear to be correlated with the recited function of binding vWF. Therefore, a skilled artisan would reasonably conclude that applicant was not in possession of the full breadth of the claimed genus of heavy chain antibodies and antigen binding fragments thereof at the time the instant invention was filed.

Applicant's arguments filed May 22, 2009 have been fully considered but they are not persuasive. Applicant begins by arguing that written description of an antibody may be satisfied by fully describing the antigen to which a claimed antibody binds and by stating that the sequence and structure of von Willebrand factor (vWF) was well known in the art at the time the invention was filed.

Applicant is correct that when an antibody is claimed as simply binding a known antigen, written description is satisfied by a description of the antigen. Thus claims 1 and 2 (which recited antibody binding to vWF without any other functional attributes of the claimed antibody) and claims 34 and 35 (which recite binding to known functional domains within vWF, without any additional recitation of functional attributes of the claimed antibody) are not part of the rejection of record. However, the rejected dependent claims, as well as independent claims 40 and 42 recite partial structural information for the antibody (i.e. 70% identity) coupled with specific functional attributes (inhibition of a certain percentage of platelet aggregation under specific assay conditions). For these claims, the specification does not correlate how changes to the primary amino acid structure of the single domain antibody (percent identity) alter the function of inhibiting platelet aggregation.

Applicant also argues that the specification provides a representative number of species which satisfy the percent identity limitation, as evidenced by the table provided on pages 11 and 12 of the 5/22/09 response.

This argument is not persuasive because it does not detail how changes in structure influence vWF binding and platelet aggregation. As applicant has compellingly argued, 70% identity in and of itself does not correlate with the recited functional properties, since single domain antibodies of at least 70% identity which are disclosed by Frenken et al. in US patent 6,517,829 do not comprise the recited functional attributes. However, the specification does not set forth how or where amino acid differences can occur relative to SEQ ID NO:5 such that the recited functional attributes

are maintained. Thus, the skilled artisan would conclude that applicant has not disclosed how changes in the structure (amino acid sequence) correlate with changes in the functional properties of binding, aggregation inhibition and shear rate, and therefore applicant was not in possession of the broad genus of single domain antibodies recited in the instant claims at the time the application was filed.

6. Claims 36-38, 40, 42, and 51-54 stand rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for antibodies comprising SEQ ID NO:5 or fragments of SEQ ID NO:5 that maintain binding to the A1 domain of von Willebrand Factor (vWF), does not reasonably provide enablement for antibodies and fragments which comprise 70% identity to SEQ ID NO:5. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims for the reasons of record.

The office action mailed December 9, 2008 states:

> Applicant has claimed a large genus of antibodies and antibody fragments that bind vWF and are structurally similar in that they comprise 70% or more identity to either the entirety or a fragment of SEQ ID NO:5. SEQ ID NO:5 is disclosed as being a heavy chain antibody.
>
> It is well established in the art that the formation of an intact antigen-binding site requires the association of the complete heavy and light chain variable regions of a given antibody, each of which consists of three different complementarity determining regions, CDR1, 2 and 3, which provide the majority of the contact residues for the binding of the antibody to its target epitope. The amino acid sequences and conformations of each of the heavy and light chain CDRs are critical in maintaining the antigen binding specificity and affinity which is characteristic of the parent immunoglobulin (Janeway et al., see entire selection). It is also known that single amino acid changes in a CDR can abrogate the antigen binding function of an antibody (Rudikoff et al., see entire document, particularly the abstract and the middle of the left column of page 1982).
>
> Heavy chain antibodies are distinct in that they comprise only a single polypeptide chain, and thus only have 3 CDRs which are responsible for antigen binding. However, the majority of antigen contacts are still found within the CDRs (Ghahroudi et al., of record, see entire document). Note that the instant claim language allows for changes in the amino acid sequence of the claimed antibody to occur within the CDR regions. Since mutating CDR residues in regular antibodies is known in the art to be unpredictable as taught by Rudikoff et al., mutating CDR residues in heavy chain antibodies is also unpredictable, especially given that heavy chain antibodies comprise a smaller number of residues which contact antigen.
>
> Therefore, based upon the guidance of the specification and the teachings of the prior art it does not appear that a skilled artisan could make and use the invention as instantly claimed without conduction additional unpredictable research.

Applicant's arguments filed May 22, 2009 have been fully considered but they are not persuasive. Applicant argues that the specification provides extensive guidance for making and characterizing single domain antibodies, such as examples 1-3 which describe immunizing llamas and recovering clone libraries.

This example is not persuasive because claims reciting simple antibody binding to the vWF antigen have not been rejected. The claims are not limited to llama-derived antibodies, and skilled artisans are well versed in how to make an antibody that binds a target antigen, in a llama or otherwise.

Applicant next argues examples 4-16 which deal with antibodies which bind collagen.

Given that the claimed antibodies bind vWF, not collagen, teachings of the specification specific to collagen are not relevant to antibodies which bind vWF.

Applicant next argues that examples 17-25 provide guidance for selecting single domain antibodies that bind vWF and inhibit its interactions with platelets.
This argument is not persuasive because applicant has not claimed methods of screening antibodies, but rather has claimed the antibodies themselves. Further, the disclosed screening assays start with fully formed single domain antibodies. They do not deal with altering a known sequence, such as SEQ ID NO:5, such that it is assured of maintaining the desired functional properties. There is no disclosed guidance and direction concerning how SEQ ID NO:5 is to be modified in its amino acid sequence such that the recited properties will be maintained. A screening assay does not inform an artisan of how to make a thing. Rather, it lets an artisan know if something that has already been made does or does not comprise some specific functional attribute. Thus, mutations to SEQ ID NO:5 are essentially random, an unpredictable situation as was discussed in the rejection of record.

Applicant then argues additional examples which comprise making bispecific constructs, humanization, and antigen binding fragments.

This argument is not persuasive because the disclosed bispecific constructs do not comprise mutations in the vWF binding moiety and thus are not material to the issue at hand. Humanized constructs do deal with changes to the primary amino acid

sequence, but as detailed in Example 63, such changes are not random, but are highly specific and most notably occur outside of the CDRs. Note that none of the claimed antibodies recite that the CDR sequences are maintained (which are likely to be the most important for antigen binding) while residues in the framework are altered. Thus, the example is different in scope from what has been claimed. As far as fragments of SEQ ID NO:5 are concerned, the prior office action indicated that such fragments were enabled as long as they maintained antigen binding. Thus, the issue is that antibodies 70% identical (or fragments thereof) to SEQ ID NO:5 comprise random mutations which are reasonably expected to disrupt antigen binding, functional properties, or both.

Applicant also argues that the skill in the art is high, that the teachings of Rudikoff et al. are dated, and that the specification provides sequences which are 70% identical to SEQ ID NO:5 such that sequence variation per se does not result in the loss of functional attributes.

This argument is not persuasive because the claimed invention reads on random mutagenesis anywhere within SEQ ID NO:5. While the specification does provide other sequences 70% or more identical to SEQ ID NO:5 which do maintain the recited properties, other single domain antibodies which are more than 70% identical do not comprise these activities as evidenced by Frenken et al., US patent 6,517,829. Thus, there must be more than sequence identity which is required for function. The specification does not identify how the sequence is to be altered yet maintain activity and thus a skilled artisan would be forced to do extensive, trial and error research in order to make the full breadth of applicant's claimed genus of antibodies.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. The rejection of claims 1, 2, 22, 34-38, 40, 42-46, 51, 52, 54, and 55 under 35 U.S.C. 102(e) as being anticipated by Frenken et al., US Patent 6,517,829 has been withdrawn upon additional consideration.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 1, 2, 22, 34, 35, 43, 44-50, and 55 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Nagano et al. (US Patent 5,916,805, of record) in view of Ghahroudi et al. (FEBS Letters, 1997, 414:521-526, of record) for the reasons of record. The office action mailed December 9, 2008 states:

Nagano et al. disclose antibodies that bind human vWF and pharmaceutical compositions comprising said antibodies (see entire document, particularly claims 1-20 and columns 4, 10, and 11). Such antibodies and compositions are suitable for intravenous administration (see particularly the paragraph spanning columns 10 and 11) and can be used to treat numerous diseases due to their anti-thrombotic activity (see particularly the abstract). It is further disclosed that humanized antibodies are preferred for use in humans because they exhibit less immunogenicity and have longer half-lives in the bloodstream (see particularly lines 33-44 of column 10). This disclosure differs form the instant claimed invention in that heavy chain antibodies from *Camelidae* animals are not disclosed.

Ghahroudi et al. disclose methods of obtaining camel heavy chain (VHH) antibodies (see entire document, particularly the abstract). They disclose that VHH offer the advantages of being small, easily purified, and have greater stability as compared to conventional antibodies and antibody fragments such as Fab (see particularly the abstract and discussion). It is further disclosed that bi- and mutlivalent molecules made up of VHH are desirable as they will comprise increased avidity for their specific antigen (see particularly the last paragraph of page 525).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to make VHH that bind vWF. Motivation to do so comes from the disclosure of Nagano et al. that antibodies which bind vWF are useful as antithrombotics in treating disease and the disclosure of Ghahroudi et al. that VHH are cheaper and more stable than other antibody forms. Thus by making VHH the ordinary artisan would gain the advantages of decreased cost and increased stability as compared to the antibodies of Nagano et al. A

person of ordinary skill the art also would be motivated to humanize the VHH because humanization decreases the immunogenicity of the therapeutic antibody as disclosed by Nagano et al and would be motivated to make VHH multimeric to increase their avidity for antigen as disclosed by Ghahroudi et al.

Applicant's arguments filed May 22, 2009 have been fully considered but they are not persuasive. Applicant argues that the rejection is rebutted due to the presence of unexpected results. Specifically, applicant points to data present in the specification to support the assertion that the claimed products comprise unexpected properties.

This argument is not persuasive because the data which applicant asserts supports a finding of unexpected results is not commensurate in scope with the instant claims. Indeed, applicant has quoted information beginning at line 11 of page 16 of the specification which concerns the single domain antibodies of SEQ ID NOs:1-12 which bind to vWF at the A3 domain. Inspection of independent claim 1 shows that it is not limited to SEQ ID NOs:1-12 nor is it even limited to single domain antibodies which bind the A3 domain. Similarly, dependent claims recite different domains and different SEQ ID numbers, as well as percent identity which necessarily introduces mutations into the polypeptide sequences of the claimed products. Thus, applicant has provided data for a small number of species and has asserted that these "unexpected" results are thus "expected" in the broad genus of products encompassed by the instant claim language. If a result truly is "unexpected" an ordinary artisan would not reasonably expect such a result to be applicable to other products, conditions, and circumstances. If such results were applicable they would be expected, the antithesis of what applicant believes their data to be. Given the difference in scope between the data of the working examples and the claimed invention, applicant's argument concerning "unexpected results" is not persuasive.

11. Claims 56-59 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Nagano et al. (US Patent 5,916,805, of record) in view of Ghahroudi et al. (FEBS Letters, 1997, 414:521-526, of record) as applied to claims 1, 2, 22, 34, 35, 43, 44-50, and 55 above, and further in view of Griffiths et al., US Patent 5,670,132 for the reasons of record.

The office action mailed December 9, 2008 states:

> The inventions rendered obvious by the disclosures of Nagano et al. and Ghahroudi et al. have been discussed above and differ from the instant claimed invention in that they do not disclose pegylated antibodies.
>
> Griffiths et al. discloses that pegylating antibodies is advantageous because it reduces immunogenicity and increases circulatory half lives (see entire document, particularly lines 29-45 of column 2).
>
> Therefore, it would have been obvious to a person of ordinary skill in the art at the time the instant invention was made to pegylate the antibodies rendered obvious by the disclosure of Nagano et al. and Ghahroudi et al. to reduce the immunogenicity and increase half life when said antibodies are used in pharmaceutical compositions for methods of treatment.

Applicant's arguments filed May 22, 2009 have been fully considered but they are not persuasive. Applicant argues that the rejection is rebutted due to the presence of unexpected results, and that the addition of Griffiths does not rectify the deficiencies of Nagano et al. and Ghahroudi et al.

This argument is not persuasive because as discussed above applicant's data to support an assertion of unexpected results is not commensurate in scope with the claimed invention.

Double Patenting

12. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

13. Claims 1, 2, 22, 34-38, 40, and 42-55 stand provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7, 16, 18, 19, 45, 56, and 66 of copending Application No. 10/534,349 for the reasons of record.

The office action mailed December 9, 2008 states:

> Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending claims recite antibody products and pharmaceutical compositions which comprise the elected species of SEQ ID NO:5 as evidenced by the enclosed sequence alignment. Note that as part of the response received October 18, 2008, applicant indicated that SEQ ID NO:5 encompassed claims 1, 2, 22, 34-38, 40, and 42-59. As such, even though the copending claims do not recite binding affinities or Kabat numbering, since the copending claims recite a sequence which comprises SEQ ID NO:5 and SEQ ID NO:5 comprises all the properties recited in the instant claims, the products claimed in the copending application necessarily comprise the recited functional and structural properties. Note that the instant claims are broader in scope than the copending claims since the copending claims recite specific sequences whereas the instant claims also recite percent homology and functional fragment language.
>
> This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Applicant has acknowledged this rejection as part of the May 22, 2009 response and has asked that it be held in abeyance at this time.

Since applicant has not amended the claims, canceled the claims of the copending application, or filed a terminal disclaimer, the rejection is maintained.

14. Claims 56-59 stand provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7, 16, 18, 19, 45, 56, and 66 of copending Application No. 10/534,349 in view of Griffiths et al., US Patent 5,670,132 for the reasons of record.

The office action mailed December 9, 2008 states:

> The inventions disclosed in the copending application have been discussed above and differ from the instant claimed invention in that the copending claims do not recited that the antibodies are pegylated.
>
> Griffiths et al. discloses that pegylating antibodies is advantageous because it reduces immunogenicity and increases circulatory half lives (see entire document, particularly lines 29-45 of column 2).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the instant invention was made to pegylate the antibodies recited in the copending claims to reduce the immunogenicity and increase half life when said antibodies are used in pharmaceutical compositions for methods of treatment.

This is a provisional obviousness-type double patenting rejection.

Applicant has acknowledged this rejection as part of the May 22, 2009 response and has asked that it be held in abeyance at this time.

Since applicant has not amended the claims, canceled the claims of the copending application, or filed a terminal disclaimer, the rejection is maintained.

15. No claims are allowable.

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Szperka whose telephone number is (571)272-2934. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla can be reached on 571-272-0735. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael Szperka, Ph.D.
Primary Examiner
Art Unit 1644

/Michael Szperka/
Primary Examiner, Art Unit 1644